PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a Traffic Control Signal with street lighting at the intersection of MD 194 (Woodsboro Road) and Devilbiss Road / Daysville Road in Frederick County. The installation of the signal shall permit the removal of the existing street lighting at this intersection. Non-invasive probes shall be installed on both MD 194 legs. MD 194 (Woodsboro Road) is assumed to run in a north-south direction.

II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA six-phase, fully-actuated mode, with the MD 194 (Woodsboro Road) approaches running concurrently. Exclusive/Permissive left turn phases shall be provided for both approaches of MD 194 (Woodsboro Road). The Devilbiss Road / Daysville Road approaches shall also run concurrently.

2. A full-traffic-actuated, eight-phase controller with two (2) four channel, rack mount loop detector amplifiers housed in a NEMA size "6" base-mounted cabinet shall be installed at this intersection.

III. SPECIAL NOTES

1. The Contractor shall be responsible for terminating all signal cables, to the appropriate terminals and shall properly label each cable.

2. All controller cabinet wiring will be performed by the S.H.A. Signal Shop Contact Mr. Ed Rodenhizer at (410) 787-7650 seventy-two hours in advance of intended work.

3. All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY S.H.A..

ITEM NO.	DESCRIPTION	QUANTITY
9000	Eight-phase, full-traffic actuated, solid state digital controller with intersection module and UPS backup and (2) 4-channel rack mount loop detector amplifiers, housed in a NEMA size "6" base-mounted cabinet.	1 EA
9089	Sheet aluminum signs to consist of:	139.5 SF
	GUIDE SHIELD ASSEMBLY (48"x75") pole mounted. M3-2 "SOUTH"(30"X15") M1-5 "MD 194"(48"X36") M6-1 "left arrow "(30"X24")	1 EA
	GUIDE SHIELD ASSEMBLY (48"x75") pole mounted. M3-2 "NORTH"(30"X15") M1-5 "MD 194"(48"X36") M6-1 "left arrow "(30"X24")	1 EA
	GUIDE SHIELD ASSEMBLY (30"x51") pole mounted. M3-2 "NORTH"(24"X12") M1-5 "MD 194"(30"X24") M6-1 "right arrow "(21"X15")	1 EA
	GUIDE SHIELD ASSEMBLY (30"x51") ground mounted. M3-2 "SOUTH"(24"X12") M1-5 "MD 194"(30"X24") M6-1 "right arrow "(21"X15")	1 EA
	W3-3 NEW "SIGNAL AHEAD" sign, (36" x 36") ground mounted with hardware.	2 EA
	W3-3 NEW "SIGNAL AHEAD" sign, (48" x 48") ground mounted with hardware.	2 EA
	D3-2 "(arrow) Daysville RD / Devilbiss Brg. RD (arrow)" sign, (variable x 24") to be mounted with W3-3 sign.	1 EA
9090	Sheet aluminum signs to consist of: (Blue or Green)	81.5 SF
	D3-2 "Woodsboro PK " dual faced sign, (variable x 16") mast arm mounted.	2 EA
	D3-2 "(arrow) Devilbiss Brg. RD / Devilbiss Brg. RD(arrow)" sign, (variable x 16") (dual faced) mast arm mounted	1 EA
	D3-2 "(arrow) Daysville RD / Daysville RD (arrow)" sign, sign, (variable x 16") (dual faced) mast arm mounted	1 EA
	D3-3 "(arrow) Devilbiss Brg. RD / Daysville RD(arrow) NEXT SIGNAL" sign, (36" x 72") ground mounted with hardware.	1 EA

EQUIPMENT LIST (CONT.)

A. EQUIPMENT TO BE SUPPLIED BY S.H.A..

ITEM NO.	DESCRIPTION	QUANTITY
	R10-12 "LEFT TURN YIELD ON GREEN (BALL)" sign, (36" x 42") mast arm mounted.	2 EA

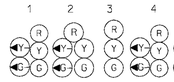
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of traffic per assignment.	3 EA
2002	Test Pit Excavation	5 C.Y.
5005	24" white heat applied permanent preformed thermoplastic pavement marking.	80 L.F.
5008	Remove existing pavement markings - (Stopline)	20 L.F.
8011	Furnish and install 12" vehicular traffic signal head section	32 EA
8013	Furnish and install 15' bracket arm for traffic signal structure.	1 EA
8014	Furnish and install 250 watt HPS Luminaire with photocell.	3 EA
8019	Furnish and install 8" vehicular traffic signal head section.	6 EA
8020	Furnish and install control and distribution equipment (120/240 V, 1 phase 3 wire system).	1 EA
8022	Furnish and install 27' mast arm pole and 50' (cut to 40') mast arm.	2 EA
8022	Furnish and install 27' mast arm pole and 50' mast arm.	2 EA
8043	Furnish and install non-invasive probe set with 1000' lead-in cable.	2 EA
8044	Furnish and install non-invasive probe set with 500' lead-in cable.	2 EA
8047	Remove and dispose of existing foundation 12" below grade.	2 EA
8048	Remove and dispose of existing material and equipment per assignment.	1 EA
8051	Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit - trenched	1430 L.F.
8052	Furnish and install 4" schedule 80 rigid polyvinyl chloride conduit - bored.	195 L.F.
8053	Furnish and install 4" schedule 80 rigid polyvinyl chloride conduit - trenched.	30 L.F.
8057	Furnish and install concrete for signal foundation.	14 C.Y.
8058	Furnish and install wood sign supports 4" x 4".	70 L.F.
8059	Furnish and install wood sign supports 4" x 6".	115 L.F.
8060	Furnish and install No. 6 AWG stranded bare copper ground wire.	435 L.F.
8064	Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit - bored.	170 L.F.
8068	Furnish and install 1" liquid tight flexible non-metallic conduit for detector sleeve.	25 L.F.
8072	Furnish and install electrical handhole.	18 EA
8074	Install ground mounted sign.	96.5 S.F.
8075	Install overhead sign.	124.5 S.F.
8080	Furnish and install ground rod - 3/4" x 10'.	4 EA
8081	Furnish and install electrical cable - 2 conductor (aluminum shielded).	590 L.F.

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

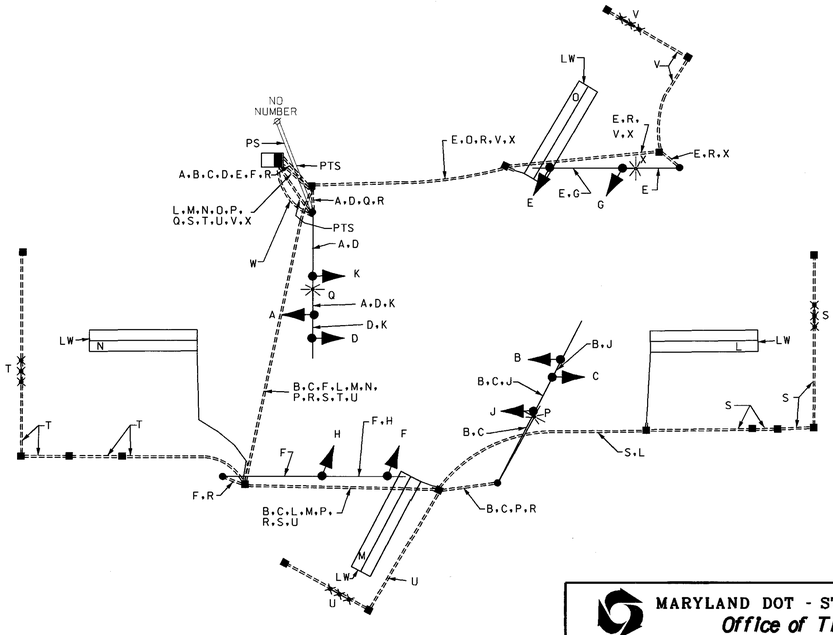
ITEM NO.	DESCRIPTION	QUANTITY
8084	Furnish and install electrical cable - 5 conductor (No. 14 AWG).	110 L.F.
8085	Furnish and install electrical cable - 7 conductor (No. 14 AWG).	1000 L.F.
8086	Furnish and install tray cable - 2 conductor (No. 12 AWG).	500 L.F.
8087	Furnish and install loop wire encased in flexible tubing (No. 14 AWG).	1830 L.F.
8088	Furnish and install saw cut for signal (loop detector).	480 L.F.
8091	Furnish and install 2" schedule 80 rigid polyvinyl chloride - trenched	40 L.F.
8093	Install controller and cabinet base mount.	1 EA
Neg.	Remove ground mounted sign.	2 EA
Neg.	Furnish and install 20' lighting arm.	2 EA

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	
PHASE 1 & 5	◄G-/R	◄G-/R	R	◄G-/R	◄G-/R	R	R	R	R	R	
CHANGES TO PHASES 1 & 6, 2 & 5 OR 2 & 6											
PHASE 1 & 6	◄G-/G	◄G-/G	G	R	R	R	R	R	R	R	
1 & 6 CHANGE	◄Y-/G	◄Y-/G	G	R	R	R	R	R	R	R	
PHASE 2 & 5	R	R	R	◄G-/G	◄G-/G	G	R	R	R	R	
2 & 5 CHANGE	R	R	R	◄Y-/G	◄Y-/G	G	R	R	R	R	
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	
PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G	
4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	

WIRING DIAGRAM



WIRING KEY

- A, B, C, D, E, F, M } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- G, H, I, J, K } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G)
- L, M, N } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G) ALUMINUM SHIELDED
- O, P, Q, X } 2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G)
- R - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- S, T } MICROLOOP LEAD-IN CABLE (1000')
- U, V } MICROLOOP LEAD-IN CABLE (500')
- W - 3-1 CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
- LW - LOOP WIRE (NO. 14 A.W.G.)
- PS - PROPOSED OVERHEAD SERVICE TO BE INSTALLED BY ALLEGHENY POWER
- PTS - PROPOSED TELEPHONE SERVICE TO BE INSTALLED BY VERIZON
- + - GROUND ROD

STREET TRAFFIC STUDIES, LTD.
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MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
MD 194 (WOODSBORO ROAD) AND DEVILBISS BRIDGE ROAD / DAYSVILLE ROAD

DRAWN BY:	ROB CICCHINI	F.A.P. NO.		TS NO.	SHEET NO.
CHECKED BY:	R.R.Z.	S.H.A. NO.	FREDERICK		2 OF 2
SCALE:	N/A	COUNTY:		T.I.M.S. NO.	
DATE:	10-25-01	LOG MILE:		E-723	

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